

Summary

Myocardial Fatty Acid Imaging Using Iodine-123-BMIPP in Patients with Hypertensive Intracranial Hemorrhage

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An evaluation of myocardial fatty acid metabolism in hypertensive patients with major complication has not been previously established. To assess the myocardial fatty acid metabolism in hypertensive patients with intracranial hemorrhage (IH), we performed myocardial image using ^{123}I -15-p-iodophenyl-3-methyl pentadecanoic acid (BMIPP). Seventeen hypertensive patients with IH (HIH) and 27 hypertensive patients without IH (HT) were studied. A dose of 111 MBq of BMIPP was injected intravenously at rest, and a myocardial image was recorded 30 minutes after the injection. Myocardial perfusion image using Thallium-201 (Tl) was also performed within 2 weeks after BMIPP study. The regional myocardial uptakes of BMIPP and Tl were visually assessed in 17 segments with a four-point scoring system (0 = absent to 3 = normal uptake). Cardiac hypertrophy was evaluated

by electrocardiography (ECG) and two-dimensional ultrasonic cardiography (UCG). Sum of uptake scores of Tl was similar in both groups (45.1 ± 5.4 vs. 47.9 ± 4.2), but that of BMIPP in HIH was lower than HT (35.9 ± 7.9 vs. 45.6 ± 4.8 , $p < 0.001$). Evaluation of cardiac hypertrophy using ECG and UCG revealed no significant difference between two groups. HIH have much more eccentric hypertrophy in UCG study than HT (53% vs. 37%). These data suggest that hypertensive patients with intracranial hemorrhage have a more impaired myocardial fatty acid metabolism compared to the hypertensive patients with similar cardiac hypertrophy. BMIPP imaging might be useful to evaluate the severity of myocardial fatty acid metabolism in hypertensive patients.

Key words: Hypertension, Intracranial hemorrhage, BMIPP, Myocardial metabolism.